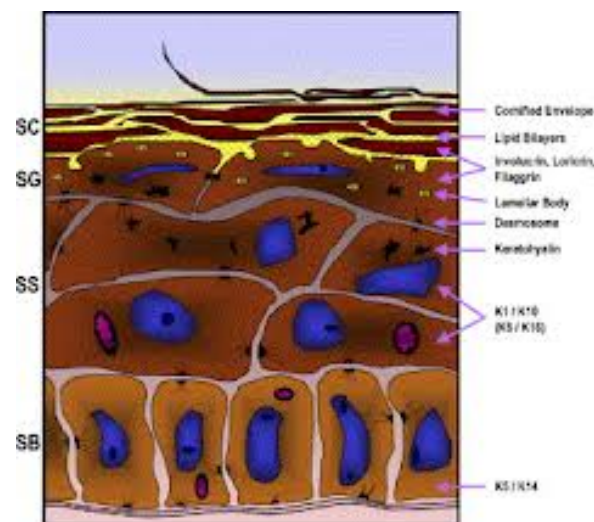


Keratinocytes (Skin Cells)

About 90 percent of the cells in the epidermis, the first layer of skin, are keratinocytes, named because they produce a tough, fibrous protein called keratin. This protein is the main structural protein of the epidermis, and it provides many of the skin's protective properties. Keratinocytes in the epidermis are arranged in layers, with the youngest cells in the lower layers and the oldest cells in the upper layers. The old keratinocytes at the surface of the skin constantly slough off, bringing potential invaders with them. Meanwhile, cells in the lower layers of the epidermis divide continually, producing new keratinocytes to replace those that have sloughed off. As keratinocytes push up through the layers of the epidermis, they age and, in the process, produce keratin. By the time the cells reach the uppermost layer of the epidermis, they are dead and completely filled with the tough protein. Healthy epidermis replaces itself in a neatly orchestrated way every month.



Scattered among the keratinocytes in the epidermis are melanocytes, cells that produce a dark pigment called melanin. This pigment gives color to the skin and protects it from the sun's ultraviolet rays. After being produced in the melanocytes, packets of melanin called melanosomes transfer to the keratinocytes. There they are arranged to protect the deoxyribonucleic acid (DNA), or genetic material, of the keratinocytes.

<http://kidsresearchexpress-5.blogspot.com/2008/08/epidermis.html>